

UNCLASSIFIED

PE NUMBER: 0603287F
 PE TITLE: Physical Security Equipment

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2004	
BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603287F Physical Security Equipment					
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	24.275	22.640	21.819	25.560	30.111	29.767	0.000	0.000
5121 Physical Security Equipment	0.000	24.275	22.640	21.819	25.560	30.111	29.767	0.000	0.000

In FY 2004, this is a new PE, efforts were transferred from PE 0603228D8Z.

(U) **A. Mission Description and Budget Item Justification**

This program is a budget activity level 4 based on the concept/technology development activities ongoing within the program. The purpose of this program is to develop physical security equipment (PSE) systems, to include Force Protection, for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. Funding for critical RDT&E security improvements within Service channels fluctuated widely over the years and prompted the 1989 Congressionally directed consolidation of the Services and former Defense Special Weapons Agency (DSWA) / Defense Threat Reduction Agency (DTRA) PSE RDT&E funds into a single OSD controlled program element. The funds are used to provide PSE RDT&E for individual Service and Joint PSE requirements. The PSE program is organized so that an ongoing USAF-coordinated Joint Action Group, consisting of Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) representatives monitors, directs and prioritizes potential and existing PSE programs. OSD program oversight, as established by a Memorandum of Understanding, is provided by the Office of the Under Secretary of Defense, Acquisition, Technology and Logistics (AT&L), the Assistant Secretary of Defense for Command, Control and Communications (ASD(C3I)), and the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological (ATSD(NCB)) programs. With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-service application. This program element supports the Army's advanced engineering development of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units. In a like manner, the program element also supports the Air Force's PSE RDT&E effort in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion. Finally, the program supports Navy RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults. Beginning with FY 1997, this PE includes funding for Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies, which are considered effective for DoD physical security use.

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BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603287F Physical Security Equipment

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	0.000	24.483	22.699
(U) Current PBR/President's Budget	0.000	24.275	22.640
(U) Total Adjustments	0.000	-0.208	
(U) Congressional Program Reductions		-0.208	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

OSD PBD 203C transferred funding for this existing program, along with PE 0604287F, from OUSD(AT&L) PE 0603228D8Z to the Air Force for management and execution, effective October 1, 2003.

Exhibit R-2a, RDT&E Project Justification	DATE February 2004
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603287F Physical Security Equipment			PROJECT NUMBER AND TITLE 5121 Physical Security Equipment		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
5121 Physical Security Equipment	0.000	24.275	22.640	21.819	25.560	30.111	29.767	0.000	0.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This program is a budget activity level 4 based on the concept/technology development activities ongoing within the program. The purpose of this program is to develop physical security equipment (PSE) systems, to include Force Protection, for all DoD components. This program supports the protection of tactical, fixed, and nuclear weapons systems, DoD personnel and DoD facilities. Funding for critical RDT&E security improvements within Service channels fluctuated widely over the years and prompted the 1989 Congressionally directed consolidation of the Services and former Defense Special Weapons Agency (DSWA) / Defense Threat Reduction Agency (DTRA) PSE RDT&E funds into a single OSD controlled program element. The funds are used to provide PSE RDT&E for individual Service and Joint PSE requirements. The PSE program is organized so that an ongoing USAF-coordinated Joint Action Group, consisting of Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) representatives monitors, directs and prioritizes potential and existing PSE programs. OSD program oversight, as established by a Memorandum of Understanding, is provided by the Office of the Under Secretary of Defense, Acquisition, Technology and Logistics (AT&L), the Assistant Secretary of Defense for Command, Control and Communications (ASD(C3I)), and the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological (ATSD(NCB)) programs. With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-service application. This program element supports the Army's advanced engineering development of Interior and Exterior Detection, Security Lighting, Security Barriers and Security Display Units. In a like manner, the program element also supports the Air Force's PSE RDT&E effort in the areas of Exterior Detection/Surveillance, Entry Control, Delay/Denial, Tactical Systems and Airborne Intrusion. Finally, the program supports Navy RDT&E efforts in the areas of Waterside Security, Explosive Detection, and improved technology for Locks, Safes and Vaults. Beginning with FY 1997, this PE includes funding for Force Protection Commercial-Off-The-Shelf (FP COTS) evaluation and testing, which has received focus since the 1996 Khobar Towers terrorist bombing incident. The FP COTS testing applies to all available technologies, which are considered effective for DoD physical security use.

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) This is a new Air Force program element. Effective October 1, 2003, funding for this program transfers from OUSD(AT&L) PE 0603228D8Z. Please refer to that PE for FY 2003 plans.			
(U) FORCE PROTECTION/TACTICAL SECURITY EQUIPMENT		12.114	
<ul style="list-style-type: none"> -Issue Federal Business Opportunities Announcement for the tactical video Surveillance System (TVSS). -Conduct Market Survey for the TVSS. -Complete an Aircraft Self -Protection Security System (ASPSS) prototype. -Conduct ASPSS Design Testing -Continue Pre-Planned Product Improvements (P3I) to the Tactical Automated Security System (TASS) annunciator. -Continue TASS P3I efforts to incorporate long range detection, remotely operated weapons, and Unmanned Aerial Vehicle (UAV) capabilities. -Complete the Electronic Trip Flare (ETF) Acquisition Strategy/Acquisition Plan. 			

Exhibit R-2a, RDT&E Project Justification		DATE February 2004
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
04 Advanced Component Development and Prototypes (ACD&P)	0603287F Physical Security Equipment	5121 Physical Security Equipment
<ul style="list-style-type: none"> -Complete the ETF Milestone B Decision Review Package. -Complete the ETF Life Cycle Cost Estimate and Acquisition Program Baseline. -Complete the development of the Remote Detection and Tracking Sensor (RDTS) and accomplish testing. -Begin the development of a RDTS Over-Water Detection Enhancement. -Develop advanced concept systems that permit the informed selection of the correct sensor to be employed in a force protection environment, digitize video/IR images at the camera, classify targets, and network wireless sensors. -Begin development of a long range laser break-beam sensor. -Conduct user assessment of 30 Battlefield Anti-Intrusion System (BAIS) - an upgraded replacement for PEWDII - systems deployed to Iraq in support of Stryker mission. -Continue to manage, develop, evaluate, and test Delay/Denial products. -Continue to manage sensor and assessment product developments and tests. -Continue to research technological advances at DoD, DoE, University Labs, DARPA programs, within industry, etc., with PSE utility. -Continue to prepare operational systems improvement plans; develop technology roadmap, update system architecture. -Continue to test, develop, and integrate equipment to improve security and access to facilities. 		
(U) FORCE PROTECTION/TACTICAL SECURITY EQUIPMENT		13.671
<ul style="list-style-type: none"> -ETF Award SDD contract. Conduct Production Qualification Testing -Continue TASS P3I efforts including improvements to the annunciator. -Conduct Concept Exploration for best technical approach to integrate TVSS with other phenomenology for Tactical Intrusion Detection. -Correct ASPSS design deficiencies and develop a production model. - Complete development of a RDTS over-water detection enhancement. - Complete the development and testing of the PICS. -Develop Identification of Friend or Foe capability to work with wide area sensors -Begin Smart Gate P3I efforts to improve base access control -Develop and document Operational, System, and Technical Architectures -Continue to manage, develop, evaluate, and test Delay/Denial products. -Continue to manage sensor and assessment product developments and tests. -Continue to research technological advances at DoD, DoE, University Labs, DARPA programs, within industry, etc., with PSE utility. -Continue to prepare operational systems improvement plans; develop technology roadmap, update system architecture. -Continue to test, develop, and integrate equipment to improve security and access to facilities. 		
(U) ROBOTIC SECURITY SYSTEMS INTEGRATION		0.425
<ul style="list-style-type: none"> -Investigate/develop motion detection algorithms for a Mission Payload Prototype (MPP) -Investigate COTS computer hardware, acoustical/chemical/biological sensors for integration with the MPP. -Continue to develop and analyze hardware and software to support the development of intrusion detection from an external robotics platform. 		
(U) ROBOTIC SECURITY SYSTEMS INTEGRATION		0.850
<ul style="list-style-type: none"> -Design MPP modular architecture. 		
Project 5121	R-1 Shopping List - Item No. 39-4 of 39-9	Exhibit R-2a (PE 0603287F)

Exhibit R-2a, RDT&E Project Justification		DATE February 2004
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
04 Advanced Component Development and Prototypes (ACD&P)	0603287F Physical Security Equipment	5121 Physical Security Equipment
<ul style="list-style-type: none"> -Build a smaller weatherized/ruggedized MPP prototype -Perform lab and field analysis of mobile intrusion detection from an external robotics platform. 		
(U) WATERSIDE SECURITY SYSTEM		2.900
<ul style="list-style-type: none"> -Continue efforts with a foreign ally to develop the next generation of the WQX-2 sonar in support of Subsurface Threat Detection. -Continue pre-planned production improvements (P3I) efforts for COTS sonar technologies in support of Subsurface Threat Detection. -Conduct market investigations of anti-swimmer nets, barriers, and communications devices in order to enhance Swimmer Delay, Denial, and Response. -Develop software that addresses the weaknesses of video motion detection in support of Shoreline Intrusion Detection. -Provide report on the performance evaluation of selected animal recall devices that assist in developing a Non-Lethal Diver Deterrence. -Begin analysis of existing data and requirements for a Passive Broadband Intruder Classifier (PBIC) 		
(U) WATERSIDE SECURITY SYSTEM		1.700
<ul style="list-style-type: none"> -Conduct a comprehensive test program for the Reson, Thales, Lockheed, and other sonars in support of Subsurface Threat Detection. -Conduct in-water tests of Sea Fence and a composite material lightweight barrier developed by the Naval Facilities Engineering Support Center to provide Swimmer Delay, Denial, and Response capability. -Integrate subsurface response capabilities to the baseline weapon system security architecture at high profile naval facilities. -Test and evaluate COTS VMD products that may integrate to provide shoreline intrusion detection -Begin animal testing in support of Non-Lethal Diver Deterrence. -Begin human testing in support of Non-Lethal Diver Deterrence. -Collect data on divers using various types of equipment in an effort to use a Passive Broadband to Classify Underwater Intruders. 		
(U) EXPLOSIVE DETECTION EQUIPMENT		5.615
<ul style="list-style-type: none"> -Provide support to the Counter Bomb/Counter Bomber (CB2) Advanced Concept Technology Demonstration (ACTD). -Test two non-imaging Millimeter Wave (MMW) prototype systems for effective range, sensitivity, resolution, penetration, and vulnerability to countermeasures. -Redesign the Laser IMS Handheld Explosive Detector pre-prototype into a production model. -Complete the conceptual design of the Remote/Stand-off Explosive Detection System and provide a test-bed demonstration. -Provide support to the effort to find solutions to the Improvised Explosive Detection (IED) threat. -Continue to develop logistic support plans, summaries, operational manuals for selected COTS products. -Update and maintain the EDE web site. 		
(U) EXPLOSIVE DETECTION EQUIPMENT		2.705
<ul style="list-style-type: none"> -Repackage MMW prototype systems to meet operational requirements. -Refine the MMW technology for optimization in the stand-off detection of IEDs and suicide bombers. -Initiate LRIP of the Laser IMS Handheld Explosive Detector. -Complete the development of the basic Remote/Stand-off Explosive Detection System design and transition the basic design to industry. -Optimize technology identified in the Counter Bomb/Counter Bomber Advanced Concept Technology Demonstration (ACTD). 		
(U) LOCKS, SAFES, VAULTS		0.621
<ul style="list-style-type: none"> -Develop a universal mounting system for the Integrated Locking Device (ILD). 		
Project 5121	R-1 Shopping List - Item No. 39-5 of 39-9	Exhibit R-2a (PE 0603287F)

Exhibit R-2a, RDT&E Project Justification							DATE February 2004		
BUDGET ACTIVITY			PE NUMBER AND TITLE		PROJECT NUMBER AND TITLE				
04 Advanced Component Development and Prototypes (ACD&P)			0603287F Physical Security Equipment		5121 Physical Security Equipment				
<ul style="list-style-type: none"> -Complete the ILD User Data Package. -Provide ILD information and installation support. -Investigate and review storage magazine test data regarding the Physical Security of Storage Magazines. -Prioritize storage magazine types based on quantity, risk to sensitive weapons/ammunition and delay times. -Publish a findings report and propose a way-ahead regarding the security of Storage Magazines. -Develop a Test and Evaluation Master Test Plan (TEMP). -Act as a repository/center of excellence for ILD information and provide IKD installation coordination, support and training for DoD activities. 									
(U)	LOCKS, SAFES, VAULTS							1.314	
<ul style="list-style-type: none"> -Develop a light-weight weapons armory door ILD system. -Incorporate design improvements for the ILD to increase operation and forced entry resistance. -Evaluate Storage Magazine construction for the purpose of determining the security of storage structures through testing and engineering analysis. -Initiate development of cost effective upgrade packages for substandard magazine door systems. -Act as a repository/center of excellence for ILD information and provide IKD installation coordination, support and training for DoD activities. 									
(U)	COMMERCIAL-OFF-THE-SHELF TESTING							2.600	
<ul style="list-style-type: none"> -Begin preparations for Force Protection Equipment Demonstration (FPED) V. -Provide support to the effort to find solutions to the Improvised Explosive Detection (IED) in Iraqi and Afghanistan. -Continue efforts that increase the situational awareness for system operators. -Investigate COTS capability that avoids increases in the manpower footprint. -Continue to support all testing of PSE products (COTS, NDI, Developmental), systems testing and development of required documentation. 									
(U)	COMMERCIAL-OFF-THE-SHELF TESTING							2.400	
<ul style="list-style-type: none"> -Execute FPED V. -Continue to seek near-term (commercial) solutions for immediate force protection needs. -Continue to support all testing of PSE products (COTS, NDI, Developmental), systems testing and development of required documentation. 									
(U)	Total Cost					0.000	24.275	22.640	
(U)	<u>C. Other Program Funding Summary (\$ in Millions)</u>								
		<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>
(U)	AF RDT&E								<u>Total Cost</u>
(U)	Other APPN								
	Not Applicable								
(U)	<u>D. Acquisition Strategy</u>								
	Not Applicable								

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Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)					PE NUMBER AND TITLE 0603287F Physical Security Equipment					PROJECT NUMBER AND TITLE 5121 Physical Security Equipment		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2003 Cost</u>	<u>FY 2003 Cost</u>	<u>FY 2003 Award Date</u>	<u>FY 2004 Cost</u>	<u>FY 2004 Award Date</u>	<u>FY 2005 Cost</u>	<u>FY 2005 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
HQ ESC (Air Force)	PO					6.525	Jan-04	6.140		Continuing	TBD	
PM-PSE (US Army)	MIPR					5.954	Dec-03	4.610		Continuing	TBD	
CNO-N34 (US Navy)	MIPR					7.708	Dec-03	6.910		Continuing	TBD	
DTRA	MIPR					1.850	Jan-04	1.540		Continuing	TBD	
Subtotal Product Development			0.000	0.000		22.037		19.200		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) <u>Management</u>												
Program Office Support						2.238		3.440		Continuing	TBD	
Subtotal Management			0.000	0.000		2.238		3.440		Continuing	TBD	0.000
Remarks:												
(U) <u>Not Applicable</u>												
(U) Total Cost			0.000	0.000		24.275		22.640		Continuing	TBD	0.000
Remarks:												

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Exhibit R-4a, RDT&E Schedule Detail	DATE February 2004
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603287F Physical Security Equipment	PROJECT NUMBER AND TITLE 5121 Physical Security Equipment
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	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <u>Schedule Profile</u>			
(U) Conduct market survey for the TVSS		2Q	
(U) Begin to develop a RDTS Over-Water Detection Capability		2Q	
(U) Complete ETF Milesone B decision review package		2Q	
(U) Begin development of the long range laser break-beam sensor		1Q	
(U) Award ETF SDD contract			2Q
(U) Investigate motion detection algorithms for MPP		1Q	
(U) Investigate COTS sensors for integration with MPP		2Q	
(U) Begin Smart Gate P3I			1Q
(U) Design MPP modular architecture			2Q
(U) Conduct market investigations for anti-swimmer technology		3Q	
(U) Develop software to assess the weaknesses of Shoreline Intrusion Detection VMD		4Q	
(U) T&E COTS VMD products for Shoreline Intrusion Detection			1Q
(U) Provide support to CB2 ACTD		1Q	
(U) Provide support to find solutions to the IED threat		1Q	
(U) Redesign the Laser IMS HH ED prototype for production		3Q	
(U) Test two MMW prototypes		4Q	
(U) Refine MMW technology to counter standoff and suicide bomber threats			2Q
(U) Initiate LRIP of Laser IMS HH ED			3Q
(U) Develop universal mounting system for the ILD		3Q	
(U) Publish Report on the security of Storage Magazines		4Q	
(U) Develop a light weight ILD for weapons armory doors			4Q
(U) Begin prep for FPED V		1Q	
(U) Execute FPED V			3Q